

#### 4. Alignment of Expert Mouse Clock

After successful hardware and software installation, LED of **Expert Mouse Clock** shines green and flashes red once per second. If the LED does not shine, please check the connection of the device. Irregular blinking indicates a bad reception or a disturbance of the signal. Monitors or other electrical devices can be the reason. In these cases change the position of the module. Also rotating **Expert Mouse Clock** can improve signal reception significantly (compare Fig. 2). After having found an optimum position, fixate **Expert Mouse Clock**. The PC clock will be synchronised after two or three minutes.



Fig. 2: Diffusion of the DCF77 signal

Since the time signal spreads out in circles from the sender in Frankfurt a. M., you will get best signal reception if **Expert Mouse Clock** is placed as shown in the image.

After having found an optimum position, fixate **Expert Mouse Clock**. The PC clock will be synchronised after two or three minutes.

#### 5. Support

Our Windows software contains a help file. There you find detailed information on features and operations of **Expert Mouse Clock** as well as a FAQ list. Under [gude.info/nc/support/downloads](http://gude.info/nc/support/downloads) the latest driver and software of **Expert Mouse Clock** is available for download. For further questions, please have a look at [gude.info/wiki](http://gude.info/wiki) or feel free to contact our service team.

#### 6. EU Declaration of Conformity

 Gut. Besser. GUDE.

**CE EG Konformitätserklärung**  
EC Declaration of Conformity

**Der Hersteller**  
The manufacturer

Gude Analog- und Digitalsysteme GmbH  
Eintrachtstr. 113  
50668 Köln (Deutschland)

erklärt hiermit, dass die folgenden Produkte / hereby declares that the following products

**Produktbezeichnung**  
Product name

Expert Mouse Clock 0100  
Expert Mouse Clock 0102  
Expert Mouse Clock 0107  
Expert Mouse Clock 0108  
Expert Mouse Clock 0131

**Beschreibung**  
Description

DCF77 Funkzeitempfänger mit serieller Schnittstelle  
DCF77 radio clock receiver with serial interface

mit den Bestimmungen der nachstehenden EU-Richtlinien übereinstimmen / are in accordance with the following European directives

**2004/108/EG**  
2004/108/EC

Elektromagnetische Verträglichkeit (EMV)  
Electromagnetic Compatibility (EMC)

**2011/65/EU**

zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS)  
on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

und dass die nachstehenden harmonisierten Europäischen Normen zur Anwendung gelangt sind. / and comply with the following harmonised European standards.

**EN 55022:2010/AC:2011**

Einrichtungen der Informationstechnik - Funkstörereigenschaften - Grenzwerte und Messverfahren / Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement

**EN 55024:2010**

Einrichtungen der Informationstechnik - Störfestigkeitseigenschaften - Grenzwerte und Prüfverfahren / Information technology equipment - Immunity characteristics - Limits and methods of measurement

**EN 50581:2012**

Technische Dokumentation zur Beurteilung von Elektro- und Elektronikgeräten hinsichtlich der Beschränkung gefährlicher Stoffe / Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Köln, 11.03.2014



Dr. Michael Gude, Geschäftsführer / General manager, CEO



#### Manual

**Expert Mouse Clock 0100,  
102, 0107, 0108, 0131**

DCF77 Time Receivers for the PC



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Dear customer,

thank you for choosing a GUDE product  
All our devices are developed and manufactured in Germany in order to meet our customers' expectations towards reliable IT infrastructure.



**Expert Mouse Clock Series** empowers your PC to dispose of the exact time. All devices are suitable for operations in buildings and weatherproof locations. In particular, **Expert Mouse Clock 102** is waterproof (IP68) and hence qualified for outdoor usage.

## 1. Hardware Installation under Windows\*

### 1.1 Expert Mouse Clock 0100, 0102, 0131 (RS232)

Connect **Expert Mouse Clock** to the 9-pole serial of the PC. Set the baud rate to 50 Baud. For **Expert Mouse Clock 0131**, please connect the external antenna to the BNC interface. For 25-pole serial interfaces, please deploy a commonly used adapter to get **Expert Mouse Clock** connected.

### 1.2 Expert Mouse Clock 0107, 0108 (USB)

Insert the CD ROM *Drivers, Tools & Manuals* into the CD drive of the PC or download the latest driver version from [gude.info/nc/support/downloads](http://gude.info/nc/support/downloads). Connect **Expert Mouse Clock** to a USB port of the PC. Now Windows will automatically install the USB driver and the driver for the virtual serial interface. The driver installation can also be realized manually by using the Windows device manager. For **Expert Mouse Clock 0108**, please connect the external antenna to the BNC interface.

## 2. Operations under Windows\*

### 2.1 Software Installation

The Windows software **WinClk** converts the received time signal into UTC time and synchronizes the internal PC time (system time) at regular intervals. The displayed time results from operating system's settings (time zone, daylight saving time changes).

**i** For **Expert Mouse Clock 0107 / 0108**, the corresponding USB driver has to be installed **before** installing the Windows software (see 1.2).

Insert the CD ROM *Drivers, Tools & Manuals* into the CD drive of the PC or download the latest driver version from [gude.info/nc/support/downloads](http://gude.info/nc/support/downloads).

Follow the screen dialogue of the installation program.

\* Windows Server 2003/2008/2012 (x32/x64),  
Windows XP (x32), Vista, 7/8/10 (x32/x64)

## 2.2 Display Elements in the Software

### 1 Receive

**State:** Current receive status of radio time system

**Received signal quality:** Displayed in percent

**Last correct DCF time:** Moment of the last correctly transmitted time value

**Interface:** Interfaces used (USB or COM)

### 2 Bitsequence

The received bits (0,1) of the last two minutes are displayed here (previous and current minute). Both rows are completely filled with bits. The bit's meaning is displayed under *Information*.

### 3 Time shift

A constant offset to the received time signal can be set here. Normally, this option should be deactivated. Before using this option, please read the corresponding explanation in the software's help menu.

### 4 max. offset to PC

If this option is enabled, the received time is compared to the current PC time. Is the deviation greater than the set value (example in Fig. 1: 60 minutes), the PC time will not be synchronized. Please also read the comments in the software's help menu.

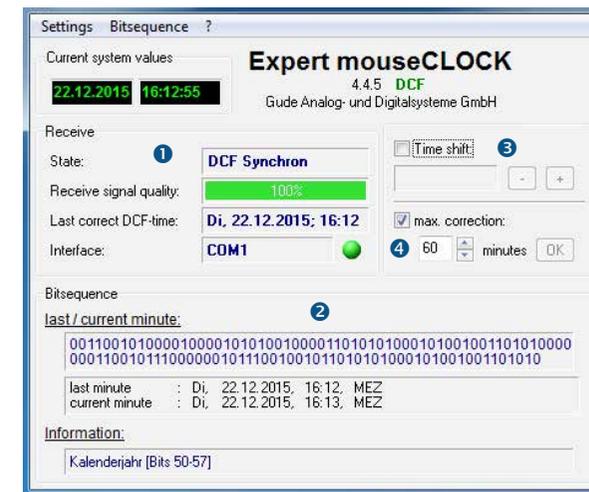


Fig. 1: Interface of Windows software **WinClk**

## 2.3 Menu Options

### Settings

**COM port:** Choose any COM port, if the desired is not automatically detected.

**Synchronize:** Choose between *singular* or *regular* (recommended) synchronization of time.

**Colors:** Adjust the color setting of the software.

**Language:** Choose the desired language.

**Close:** Choose the option *Window* or *Program*, if you wish to close the window or program.

### Bitsequence

Show or hide bitsequence window.

?

**Help:** Here you find helpful information on the user interface of **WinClk** software and on **Expert Mouse Clock Series**.

**Info:** Version information on the deployed **WinClk** software.

## 3. Operations under Linux

**Expert Mouse Clock** can be run under Unix/Linux by means of the XNTP package. By using XNTP it is possible to build up your own NTP server that polls data from **Expert Mouse Clock** through the COM interface. The retrieved time information is then distributed within the network. More detailed instructions can be found at [gude.info/wiki](http://gude.info/wiki).